THE COLLEGE.

REPORT OF THE VICE-PRINCIPAL FOR SESSION 1901-2.

NUMBER OF STUDENTS—SESSION 1901-2.

Undergraduates in Arts (attending)	313
General students in Arts (attending)	29
Post-Graduates in Arts (attending)	18
Undergraduates in Arts (extra-mural)	126
Post-Graduates in Arts (extra-mural)	11
Students in Theology	31
Students in Practical Science	105
Students in Medicine	187
	820
Registered in two faculties	15
	805
Number of Students in 1900-1	727
Increase in number of Students in 1901-2	78

It was customary for Principal Grant to refer in his annual report to the losses sustained by the University during the year. On this occasion it is my melancholy duty to refer to the greatest loss of all, the removal by death of the Principal himself. None but those intimately associated with him in the work of the University can thoroughly realize the extraordinary combination of brilliancy of conception with scrupulous attention to detail by which he was distinguished. Naturally of a bold and sanguine temperament, when occasion demanded he could display the tenacity and patience of the man of routine. Now that he is gone, every member of the University feels that he must do his utmost to carry out the immediate plans which the Principal had formed, leaving the way clear for his successor. Of these plans perhaps the most pressing was the raising of fifty thousand dollars for the equipment of the Mining and Engineering buildings now in process of erection, and the raising of ten thousand dollars for the better equipment of the Medical Faculty. It was also his hope that one other building might be erected, for the accommodation of the Library, which is now very much incommoded by want of space.

The new Arts building, referred to in last year's report, is now almost complete, and will be ready for occupation in October. This building will stand for all time as a symbol of the enlightenment and

generosity of the citizens of Kingston and of the close and friendly relations subsisting between the City and University. If this cannot be said of the County of Frontenac, it must be remembered that the people of the County are not brought into such direct contact with the life of the University as the citizens of Kingston, and are therefore unable to appreciate in the same vivid way how great is its influence in uplifting the whole community. It was a disappointment to the friends of the University to find that the County of Frontenac refused the sum asked for the erection of a Convocation and Examination Hall, required to complete the original plan of the new Arts building. No such indifference was felt by the students, who have once more shown how ardent is their love for their Alma Mater. No sooner was the by-law submitted to the County voted down than the students of their own initiative resolved to raise a sum sufficient to build the Hall, to be called by the name of their revered Principal. They have reported to the Trustees that the amount already subscribed is $34,000, over $12,000 of which has been subscribed by the students themselves, and $4,500 by the Professors. It has therefore been decided to begin the erection of the "Grant Hall" at once, and the foundation stone will be laid in the Autumn.

The grant made by the Ontario Government to the School of Mining provides for an institution so closely allied to the University two large and commodious buildings, the one to be devoted to Engineering, the other to Mineralogy and Geology. The corner-stone of the Engineering building was placed, on April 29th, by Sir Sandford Fleming, K.C.M.G., the honoured head of the Engineering profession in Canada. On the same day the Honorable Mr. Harcourt, Minister of Education, laid the foundation stone of the building to be devoted to Mineralogy and Geology, and in the course of a very happy and scholarly address he announced the intention of the Government to establish a School of Forestry as an addition to the School of Science.

Some progress has been made in regard to the changes in the Constitution of the University. The special committee of the General Assembly was re-appointed with additional members to continue the conferences with the Trustees of the University on this subject. A joint meeting was held at Kingston on April 29th and 30th last, at which after careful consideration the outline submitted of the new Constitution was approved with certain modifications.

DEGREES CONFERRED.

In Arts (B.A., 56; M.A., 19)	75
In Practical Science (B.Sc.)	14
In Medicine (M.D., C.M.)	31
In Theology (Testamurs, 8; B.D., 3)	11
	131

The honorary degree of LL.D. was conferred on Mr. N. W. Hoyles, K.C., Principal of the Law School at Osgoode Hall, and Mr. John Seath, Inspector of High Schools in Ontario. The honorary degree of D.D. was conferred on the Rev. Thomas Hart, B.D., Professor of Latin and Greek in Manitoba University, and the Rev. William Clark, Professor of English Literature in Trinity University.

THE FACULTY OF ARTS.

Since last report the teaching staff in the department of English Language and Literature has been increased by the addition of Mr. John Marshall, M.A. as Assistant.

At the last meeting of the Board of Trustees, two Fellowships in Philosophy were established of the annual value of $400 each. The Fellows for 1902-3 are, in Mental Philosophy, Mr. R. A. Wilson, M.A., and in Moral Philosophy, Mr. John M. McEachran, M.A., who take the place of the Rev. John Sharp, M.A. By the retirement of Mr. Sharp the University has lost the services of a highly efficient and faithful Tutor.

As the Board of Trustees at its meeting in October last decided to postpone the appointment of a Professor of French, the main burden of the department of Modern Languages and Literature fell upon Professor McGillivray, assisted by an additional Tutor. The Honour work was, however, strengthened by the lectures of Professor Dyde on German Classical Literature, which will be continued next session. At a recent meeting the Board appointed Mr. P. G. C. Campbell, B.A. (Oxon.), as Professor of French, which will enable Dr. McGillivray to devote his main attention to German Language and Literature. Mr. Campbell, who comes with high recommendations from the Master of Balliol and others, besides obtaining Honours in Classical Moderations and Literae Humaniores, also passed the Final School in French in the University of Oxford.

In the department of Mathematics Mr. J. Matheson, M.A., has been appointed "The William Nickle" Assistant to the Professor of Mathematics. This appointment was made necessary by the withdrawal of Mr. W. G. Fraser, M.A., who only agreed to act as Assistant for one Session.

In his last report the Principal pointed out the need of strengthening the department of Oriental Languages. The Board of Trustees has in the meantime instituted a Fellowship in Hebrew, which has been offered to Mr. James Wallace, M.A., who last Session conducted the whole of the work in Junior Hebrew with marked success. This important department ought, however, to be further strengthened as soon as possible.

Reference to the report of Professor Knight, herewith appended,

will show how greatly the attendance in Animal Biology has increased and the necessity of larger laboratory and class-rooms.

It is advisable that a separate building should as soon as possible be provided for the joint accommodation of Botany and Animal Biology.

THE THEOLOGICAL FACULTY.

Last session the illness of Principal Grant made it impossible for him to give lectures, but by the kindness of the Professors in Theology the work of the Session was carried on in a satisfactory way. Professor McComb took the place of the Principal and lectured with acceptance in Systematic Theology, while Professor Ross and Professor Jordan took their share of the additional work. During the past year $30,000, part of the $40,000 allocated to Queen's University from the Century Fund, was received, but owing to the low rate of interest now current on investments, this will not meet the loss of revenue caused by the cessation of the $2,200 hitherto received from the Temporalities Fund. It is therefore hoped that congregations will increase their contributions to the College Fund.

MEDICAL FACULTY.

The attendance in Medicine continues to show an increase, 171 being registered during the past Session as compared with 151 of the preceding Session. It is pleasing to note the increase in the number of Medical students who prepare for their profession by first taking an Arts course. In order to induce more of them to broaden the foundations of their professional studies, the Senate has instituted a course of study leading to the degrees of B.A., M.D., in six years. In arranging the details of this course it was found necessary to accept Materia Medica as an equivalent for one of the regular science subjects in Arts. This was, no doubt, objectionable on account of its inferior educational value, but the objection was largely removed by the Professor of Materia Medica agreeing to add to his practical work in Pharmacy a course of experiments illustrating the physiological action of drugs. A corresponding course in Science and Medicine leading to the degrees of B.Sc., M.D., was also agreed upon, and thus Pathology, Bacteriology, Sanitary Science and Mental Diseases were added to the list of subjects in the faculty of Science.

During the summer of 1901, another storey was added to the building, the increased space being devoted entirely to Anatomy. The rooms hitherto used for this subject were thoroughly renovated and have been assigned in part as museum, library and reading room, and in part as a large laboratory for Bacteriology. The small labor-

atory previously occupied by Dr. Connell was used last winter by Dr. Knight and Dr. Campbell for practical work in Physiology and Pharmacy.

Additional laboratory space is still badly needed.

LOSSES DURING THE YEAR.

Reference has been made above to the death of Principal Grant, but it seems only fitting that the following resolution of the Board of Trustees should be placed on record:—

"We, the Trustees of Queen's University, feel that we cannot allow our first meeting since the death of Principal Grant to pass without recording the great sorrow with which we miss the familiar face of one who for twenty-five years sat at this Board, guiding us by his far-seeing counsel, and inspiring us with something of his own consuming zeal. And we desire to convey to the relatives of our beloved friend the great sympathy we feel for them in their bereavement. While we know that none can experience the same poignancy of grief as they, we venture to hope that they may derive a measure of consolation from feeling that every member of this Board, in common with the sons and daughters and the devoted friends of the University in this and other lands, shares with them in a common sorrow. We would also venture to remind them that the counsel of our departed friend himself would have been, rather to labour earnestly for the fulfilment of the great work that still remains to be done, than to dwell too long on the irrevocable loss we have all sustained. Though he is removed from us, his spirit will ever animate and inform the Institution to which he gave a new and completer life: and we feel that it would show a distrust of the good providence of God to fear that a life of such unswerving devotion to the University, the Church, the Dominion and the Empire, should have been spent in vain."

The usual reports are submitted.

JOHN WATSON, *Vice-Principal.*

STATEMENT OF REVENUE AND EXPENDITURE OF QUEEN'S COLLEGE, KINGSTON, FOR THE YEAR ENDING APRIL 2ND, 1902.

Revenue.

Temporalities Board	$ 575 00
The Professors, Beneficiaries of the Temporalities Board	60 00
Kingston Observatory—Grant from Government	500 00
Rent of Carruthers' Hall	1,250 00
Rent (temporary)	1,500 00

Rent of Lands		135 00
Chancellor's Lectureship (2 years)		500 00
John Roberts Allan—Chair of Botany		150 00
Fees		17,497 48
Interest on Mortgages and other Securities		18,726 98
General Assembly's College Fund:		
Church Agent	$2,383 15	
Congregations contributing direct	795 37	
		3,178 52
Receipts for Scholarships		2,422 31
Interest on Jubilee Fund Subscriptions		2,670 68
Balance Deficiency		8,256 71
		$57,422 68

Expenditure.

Deficiency of former years		$ 8,262 09
Salaries—Professors and Lecturers in Theology		9,200 00
" Professors and Tutors in Arts		25,167 00
" Other Officers		3,789 64
Chancellor's Lectureship (2 years)		500 00
Church Agent—Commission on Collections for General Assembly's College Fund		60 00
Insurance		337 24
Library, Laboratories, Museum, Gymnasium, etc.		2,752 00
Taxes, Repairs and Grounds		1,287 35
Scholarship account		2,422 31
Advertising, Printing, Stationery and Supplies		2,338 00
Travelling expenses		333 50
Fuel, Water, Gas and Electricity		847 76
Contingencies		125 79
		$57,422 68

J. B. McIVER,
Treasurer.

QUEEN'S COLLEGE, KINGSTON, *April 28th, 1902.*

Examined and found correct.

J. E. CLARK,
D. CALLAGHAN,
Auditors.

GYMNASIUM FUND.

Amounts paid on this Fund.

June 1st, 1901—Paid to date		$2,014 07
Paid through W. F. Nickle		30 00
Interest on Amounts		76 00
Principal Grant, in full		250 00
Total		$2,370 07

April 26th, 1902.

WILLIAMSON MEMORIAL SCHOLARSHIP FUND.

Amount previously paid	$2,699 70	
Dr. A. E. Malloch, Hamilton	100 00	
W. L. Grant, Toronto, 1 on 250	50 00	
W. A. McPherson, Denver, Col., 3 on 50	10 00	
Rev. Robert Campbell, Montreal, 4 on 50	10 00	
Rev. M. MacGillivray, Kingston	5 00	
Rev. W. H. Easton	5 00	
Rev. J. G. Stuart, London	5 00	
Dr. Robert Ferguson, London	5 00	
Thomas Alexander, London	5 00	
		$2,894 70
Subscriptions bearing interest @ 6 per cent		200 00
		$3,094 70
Subscriptions still to be paid		220 00
		$3,314 70

April 28th. 1902.

"'01" FELLOWSHIP FUND.

Amounts paid to date $ 794 00

DEAN FOWLER SCHOLARSHIP FUND.

Amounts paid to date, including interest $ 930 00

GRANT HALL FUND.

Amounts paid to date $7,194 00

June 6th, 1902.

CHAIR OF CHURCH HISTORY.

The following subscriptions have been received since list published in QUARTERLY, July, 1901:

R. G. Reid, Montreal	$5,500 00
David Maclaren, Ottawa, bal. on $500	100 00
John Mather, Ottawa, bal. on $500	100 00
Hon. E. H. Bronson, bal. on $250	50 00
Alexander McNaughton, Cornwall	50 00
Rev. W. W. Peck, Napanee	50 00
H. F. McLachlan, Arnprior, bal. on $200	40 00
C. J. Booth, Ottawa, bal on $100	40 00

Other subscriptions of $25 and under from sundry persons, amounting to $570.00, were received.

Total amount at credit of this Fund is $23,100.00.

SIR JOHN A. MACDONALD CHAIR OF POLITICAL SCIENCE.

Amount previously received	$22,308 90
Hon. Senator Clemow, Ottawa	250 00
	$22,558.90

LIBRARY.

During the past year the following additions have been made to the Library:

Purchased	1057 volumes.
Donated	1225 "
Bound Periodicals, etc	168 "
Total	2450

Among the donations were valuable gifts of books from the Chancellor, Mrs. Stafford Kirkpatrick, Mrs. Bennett, of L'Original, and others.

The need for a convenient and spacious cousulting room for the students has been much felt. This want will now be met by the establishment in the new Arts building, of a most comfortable and roomy consulting library, intended specially for pass work. Additional accommodation will also be provided by connecting the students' present reading room in the main building, with the class room lately used for English and History, by an arch, and fitting it up as a second consulting library, which, as it will be in close connection with the main Library, will be chiefly for the use of Honour students. The Divinity class room on the other side of the hall has been connected with the Library by a doorway, and the room has been fitted up with shelving round the walls, and with shelved tables for bound newspapers, and now forms a valuable addition to the Library as a stackroom. Though these alterations in the main building can only be regarded as a temporary arrangement, pending the erection of a separate Library building, they will materially relieve the present congested condition of the Library, which has interfered with satisfactory work. The additional labour consequent on these much needed changes, has necessitated the appointment of another assistant to the Library staff, and it has been decided that one shall be appointed before the commencement of the autumn session.

The following summary of the financial statement is taken from the Auditors' report:

Balance to credit of Library, May 1st, 1901	$ 265 01
Received from the Treasurer	1,968 00
Gifts, Private Accounts and other sources	219 13
	$2,452 14
Expenditure	2,392 26
Balance	$ 59 88

THE MUSEUM.

The Curator begs to report that a very fine collection of Lepidoptera (Butterflies) was presented to the Museum last December by Mr. Paul Hahn. The collection consists of three cases; the specimens are in perfect condition, accurately named, and very valuable for study.

A fine specimen of an owl was presented by Mr. John Sharp, M.A.

No additions have been made to the Mineralogical collection, as all new specimens are handed over to the School of Mining.

The Herbarium has been increased by a large collection of plants, (including many Marine species), made in Canso last summer by the Curator. The

facilities for the study of our Canadian Flora have been greatly improved, and will be utilized when the necessary accommodation is secured in the new building.

BOTANY REPORT.

Nnmber of students registered in the Botany Classes:—

Pass Class (of whom 2 were extra-mural)	19
Preliminary Honours	5
Final Honours	4
	28

The first two classes were smaller than usual, owing probably to the fact that the greater number of Science students are now attracted to the Mining and Engineering Departments.

A very great change has taken place during the last few years in the study of Botany. Morphology and Classification, which formerly constituted almost the only subjects of Botanic study, have been largely displaced, whilst Histology, Physiology and Ecology have been substituted and are growing in importance every year. It is now a universally recognized fact that most diseases are due to the attacks of specific germs, i.e., of members of the family of plants called Bacteria, and the modern science of medicine is based upon this fact. "The whole science of aseptic and antiseptic surgery is also based on the knowledge that these plants are the agents which cause inflammaiton and blood-poisoning in surgical operations." The success of the dairy business in the production of butter, cheese, etc., is altogether dependent upon a knowledge of the species of Bacteria suitable for the production of the best marketable article. "The recognition of the great importance of these plants has led to extensive development of methods of cultivating them artificially." The scientific knowledge of farming is largely due to the study of Bacteria, Moulds, Rust, Smut, and other minute vegetable organisms.

Physiology and Ecology, (i.e., a knowledge of the adaptation of plants to their environment), have also found their way into the simplest Botanical Text-books, and occupy a very prominent position in all advanced College Classes. During the last few years I have delivered a course of lectures on these subjects, but the want of necessary room, and the absolute impossibility of performing the experiments necessary to illustrate these subjects, without suitable apparatus, limited the amount of practical work required by the advances of Science. A knowledge of Botany is also indispensible for the study of Forestry. In view of the accommodation furnished in the new building, I earnestly desire to devote the summer vacation to the two following objects:

I. I wish to visit Cornell and some other universities to see the arrangements and apparatus required for the practical study of Physiology and Ecology. Successful work depends upon proper equipment.

2. I intend, if possible, to spend most of the summer in the collecting of plants for use next session and for exchange, and also in studying the effects of the principal ecological factors upon the Flora along the lake shores and on the sand dunes. A large amount of this kind of work is done under the management of the Agricultural Department at Washington, and by organized parties of students and Professors of the Universities in the United States. Where the subjects of Ecology and Forestry are studied, work of this character is absolutely necessary, but to accomplish it I must depend upon the assistance and liberality of the Board.

Last summer I spent the time between June 28th and August 26th at Canso, N. S., collecting the Flora of the district for College work and for exchange, and succeeded in securing over 6,000 specimens, representing more than 300 species. A complete set of these have been added to the Herbarium and will furnish valuable material for study in the future.

The increase of work in the new building will necessitate the employment of an assistant.

JAMES FOWLER.

ANIMAL BIOLOGY.

The total registered attendance during the past Session was 143. Of this number 39 were registered in the pass class, 15 in preliminary honours, and 6 in final honours.

The attendance in the first year in medicine was 45, and in the second year 38.

The number registered in the eight months Session in medicine was 31, and in the second year 38. Of the second year students 11 were graduates in medicine, 6 were third year students, and the rest belonged to the regular second year class. The graduates and the third year men were preparing for the Primary Examination of the Ontario Medical Council—hence their attendance along with second year students.

Eight years ago the total attendance in my classes was 79; during the past Session it was 141, or an increase of nearly 80 per cent.

Unfortunately, class room accommodation has not kept pace with the increased attendance. My pass class, composed of both Arts and Medical students, numbers 82, while the class room is seated for only forty. The other forty disposed themselves around the room on stools as best they could. As a result of the overcrowding and defective ventilation, two lady students fainted in the class on different occasions last winter.

Nor is over-crowding the only inconvenience resulting from increased attendance. Demonstrations with a class of 80 students and one instructor is almost useless. Each student should have the use of a microscope during many of the demonstrations, and we have only 33 instruments. We need 50 more. An attempt was made last winter to remedy this lack of microscopes by dividing the classes into two divisions, and repeating every demonstration with each division, but this is a serious tax upon the time and energy of the instructors. Moreover, there is the difficulty of forming a time-table which will not conflict with other classes.

It was expected last spring (1901) that the enlarged medical building would enable us to unify the organization and teaching in Animal Biology in two directions, (1) by transferring the Museum specimens from the present Arts building to the new Medical museum; and (2) by affording additional room for experimental physiology. Neither expectation has been realized. The Medical Faculty needs all the space in their new museum for their own purposes; and the additional laboratory space expected for experimental physiology had to be shared with practical pharmacy, to the manifest disadvantage of both. Apparatus has to be taken out of the cases and returned after every demonstration, thus entailing double labor upon the instructors.

Moreover, this experimental work in physiology and pharmacy is yearly becoming more important. The days have gone by when didactic lectures

alone will suffice in these subjects. Toronto and McGill, following the example of Harvard University, have instituted courses in physiology in which the experimentation is carried on by the students themselves, just as has been done for years past in Physics and Chemistry. We should begin similar work with our students next October, but in order to do it properly we should have a well-lighted laboratory, fitted up with laboratory tables and an ample supply of apparatus, and apparatus cases.

Ten years have seen a wonderful development in the teaching of physiology. In 1892 a course of lectures with a few experiments by the lecturer was all that was considered necessary. The student was taught *about* physiology. Now he proceeds to study physiology for himself. He comes into contact with Nature at first hand. The old method made the student depend upon the authority of the teacher and text book; the new makes him depend upon his own observations and deductions. In the old method the experiments illustrated the lectures; in the new, the lectures discuss and elucidate the experiments.

Such is the method of modern physiology, and such we ought to practice at Queen's, for unless we give our Medical students as sound a training as they would get elsewhere, we have no moral right to receive them

As regards honour students, the pressing need is for more museum specimens, and for biological magazines containing the original papers of the great workers since Darwin. Until these are obtained, no research work in Animal Biology can be done at Queen's. But these needs have been emphasized in previous reports, and further reference to them is now unnecessary

To summarize: 1. An attendance of 82 students in my pass class renders a larger class room absolutely necessary. Adjoining such a class room should be a small room suitable for a *class* museum, such as must be used in lecturing to pass students.

2. In order to avoid the duplication of demonstrations, two large well-lighted rooms should be set apart, one to be used as a laboratory for experimental physiology, and one for histology. If possible these two rooms should be separated by a smaller room which would be used as a preparation room.

3. As my salary is paid entirely by fees in medicine, and as 60 out of the 143 students belong to the Arts department, it would seem just that a permanent tutor or lecturer—now greatly needed on account of the increased attendance—should be appointed, and paid for out of funds at the disposal of the Arts department.

4. I crave permission from the Board of Trustees to be allowed to solicit subscriptions to a fund with which to purchase aparatus for my department.

REPORT OF DEAN OF PRACTICAL SCIENCE FACULTY.

The position of the Practical Science Faculty, as it at present stands and in as far as I have connection with it, is somewhat unique, consisting as it does of a number of departments, some of which are wholly or almost wholly connected with the older constitution of the University, while others are under the control of an independent body of governors, and only nominally a part of the University. It is for this reason that I cannot give a complete report of matters appertaining to the Practical Science Course.

The most numerously represented department of the faculty is that of Mining in some of its branches, and the report having more distinctive relation to these is presented to the Governors of the Mining School by the Director.

This report, then, while it is to some extent general, will deal more partic-

ularly with those parts of the work with which I am more immediately connected.

Seven years ago we began the Practical Science faculty with only two students, for although Chemistry and Mineralogy and Geology are also subjects in the University, Mining as a subject had not yet been initiated. It was certainly a bold undertaking, and I remember well the opposition given to the venture by some members of the Board of Trustees. But that we were justified in our action, is amply proved by the circumstance that the number of students in Practical Science during the past Session was 103.

I predicted in my report some four years ago, when the Gymnasium building was first occupied, that we must be prepared to look forward to, and meet the needs of, a larger amount of accommodation and an increasing expenditure in carrying on the work.

Two years ago we took over the Gymnasium for laboratory purposes, to the great disgust of a considerable number of gymnastically inclined students and their friends. But that we acted wisely will be admitted when I tell you that no less than 60 students were registered in the Mechanical Laboratory during the past winter, and that, even with the Gymnasium thrown in, our accommodation has been not a whit too great, and that if the current increase of students continues for another couple of years we will have to consider the propriety, if not the necessity, of adding a wing to the present workshops.

There may be some people of one idea, who live in so ethereal and spiritual an atmosphere that they have no sympathy with things outside their common range of thought, and who look upon a workshop as something fit only for rude and uncultured mechanics. Well, the Mechanical Laboratory probably stands on somewhat higher ground than this, as it is truly an educational institution. And we who have had long years of experience in dealing with young men in search of knowledge, know that there is no department in which the characteristics of tractability, patience, neatness and taste, and determination to succeed, on the part of the student, are more strongly evidenced, or are more susceptible of direction and guidance than that of the workshop.

In speaking of the shops I must say something about the expenses connected with them, as we have no Sir William McDonald to come to our aid. They have been run as cheaply as possible, and so cheaply that I sometimes felt ashamed of it. And although comparisons may be odious, yet I feel that I must make a comparison in order to enforce my point. Thus far the supervision and direction of the shops has cost nothing; but there are two instructors, one in Carpentry and one in the Machine shop, and I feel that these men are insufficiently paid when we consider the character of their work and the increasing demand on their attention and patience.

The cost of the shops during the past year has been about $800 for wages, material, fuel, etc., and this has supplied accommodation and instruction to 60 students, or about 4,500 hours work. It costs this city about the same sum per annum, and one year ago cost it a great deal more, for doing not one-half this amount of work in Carpentry alone in its Collegiate Institute. I do not mean to convey the idea that the city is paying too much, but rather that we are paying too little.

The heating of the shops is somewhat of a nuisance to us, as it necessitates the paying of a Janitor whose services might well be dispensed with, were the building heated from the central station as I hope it may be. And the advantage would be a double one, as it would free us from the dust and ashes so detrimental to edged tools.

The blacksmith-shop when first built was something of a tentative affair; but it is now too small to supply the demands upon it, and is very inconveniently situated for winter work. Its insufficient accommodation materially increases the cost of instruction in blacksmithing, and steps should be taken at once to have one more commodious and more conveniently situated for the incoming students of another year.

Beginning in a modest way we found it most convenient to give the Mathematics in common to both Arts and Science students, and especially so while the number of students in Science was too limited to make it worth while to hold a separate class for them. But with the increasing numbers matters have changed materially. And as we are now forced to divide our junior class we have found it convenient to separate the Mathematics of the Science student completely from that of the student in Arts. The first division on that line was made in the first year's Mathematics at the beginning of the past session, and the character of the result has completely justified our expectation. Next session the division will be complete throughout the department of Mathematics. Science students will then have eight hours per week in Mathematics in their first year, and six hours per week in the second, or fourteen hours per week in all, as compared with about seven hours per week taken by Arts students. Of course this necessitates a material strengthening of the Mathematical department along the line of greater teaching capacity. How it will be met I am not prepared to say. Mathematics is now the heaviest subject in the whole University, having reached the high limit of about 30 hours per week of teaching, besides numerous exercises and a large amount of extra-mural work.

I wish finally to make a few remarks upon the subject of Astronomy as a part of the Practical Science course. I have been told that Queen's would never have a Department of Astronomy. If this were true I for one should be very sorry. Astronomy is one of the oldest subjects of human thought and as the starting point of both our Science and our Religion, it is surely worthy of study for its historical value alone. But to understand its history it is necessary to know something of descriptive Astronomy. For its character changes so slowly and its foundations are so deeply laid that the whole earthly duration of the human race is but as a moment in the grand ages of the visible Universe. But "never" is a long time; and no one can predict, with any show of certainty, as to what the next 50 or 100 years may bring to Queen's. At any rate some descriptive and practical knowledge of Astronomy is necessary to every fully equipped surveyor and engineer, and if it is not supplied at Queen's students will get it at some other place. Thus far we have been working under great difficulties for want of commodious and comfortable quarters. And I hope that this will be attended to in the near future.

The Transit Instrument which we have for a long time past been using was borrowed from the Royal Astron. Soc. of London in February, 1868, and we should not be surprised that they asked last January that it be returned to the Society's Rooms, or rather Museum I suppose; for it is an old instrument lacking in all modern appliances, and although in some respects serving our purposes, it never supplied onr wants. A new and modern transit instrument with all necessary appliances will cost probably somewhat less than $500. And in conjunction with this, and for its practical use, we need a class-room in which the Sidereal clock and other instruments are kept, and where a class of 40 or 50 students may work out the results of such observations as they are required to make.

I have only to add that the "Faculty of Practical Science," which was in a way formally constituted at the beginning of the past Session, has worked harmoniously and satisfactorily for the best interests of the department under its jurisdiction Particularly it has established two new courses, one in Chemical Engineering leading to the degree of B.Sc., and a combined course of Science and Medical subjects, so arranged that while not in any way reducing the efficiency of the Science course which leads to the degree of B.Sc., it yet enables the good student to obtain the additional degree of M.D. at the complete expiration of 6 years. Both of these courses have been approved by the Senate.

N. F. DUPUIS,
Dean of Practical Science Faculty.